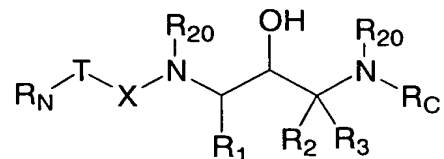


WHAT IS CLAIMED IS:

1. A compound of the formula:



or pharmaceutically acceptable salts or esters thereof;

5 wherein X is $-(C=O)-$, $-(C=S)-$, $-S(O)_{n1}-$ or $-(C=N-Z)$, wherein Z = R_{20} or $-OR_{20}$, and wherein $n1$ is 0, 1 or 2;

T is absent, NR_{20} , or O, with the proviso that when X is $-(C=O)$, T is not absent;

10 wherein each R_{20} is independently H, $-CN$, C_{1-6} alkyl or alkenyl, C_{1-6} haloalkyl or C_{4-7} cycloalkyl, with the proviso that when Z is R_{20} or $-OR_{20}$, R_{20} is not $-CN$;

wherein R_1 is $-(CH_2)_{1-2}-S(O)_{0-2}-(C_1-C_6 \text{ alkyl})$, or

15 C_1-C_{10} alkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, $-OH$, $=O$, $-SH$, $-C\equiv N$, $-CF_3$, $-C_1-C_3$ alkoxy, amino, mono- or dialkylamino, $-N(R)C(O)R'-$, $-OC(=O)-$ amino and $-OC(=O)-$ mono- or dialkylamino, or

20 C_2-C_6 alkenyl or C_2-C_6 alkynyl, each of which is optionally substituted with 1, 2, or 3 groups independently selected from halogen, $-OH$, $-SH$, $-C\equiv N$, $-CF_3$, C_1-C_3 alkoxy, amino, and mono- or dialkylamino, or

25 aryl, heteroaryl, heterocyclyl, $-C_1-C_6$ alkyl-aryl, $-C_1-C_6$ alkyl-heteroaryl, or $-C_1-C_6$ alkyl-heterocyclyl, where the ring portions of each are optionally substituted with 1, 2, 3, or 4 groups independently selected from halogen, $-OH$, $-SH$, $-C\equiv N$, $-NR_{105}R'_{105}$, $-CO_2R$, $-N(R)COR'$, or $-N(R)SO_2R'$, $-C(=O)-(C_1-C_4)$ alkyl, $-SO_2$ -amino, $-SO_2$ -mono or dialkylamino, $-C(=O)-$ amino, $-C(=O)-$ mono or dialkylamino, $-SO_2-(C_1-C_4)$ alkyl, or

C₁-C₆ alkoxy optionally substituted with 1, 2, or 3 groups which are independently selected from halogen, or

5 C₃-C₇ cycloalkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF₃, C₁-C₃ alkoxy, amino, -C₁-C₆ alkyl and mono- or dialkylamino, or

10 C₁-C₁₀ alkyl optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF₃, -C₁-C₃ alkoxy, amino, mono- or dialkylamino and -C₁-C₃ alkyl, or

15 C₂-C₁₀ alkenyl or C₂-C₁₀ alkynyl each of which is optionally substituted with 1, 2, or 3 groups independently selected from halogen, -OH, -SH, -C≡N, -CF₃, C₁-C₃ alkoxy, amino, C₁-C₆ alkyl and mono- or dialkylamino; and the heterocyclyl group is optionally further substituted with oxo;

R and R' independently are hydrogen, C₁-C₁₀ alkyl, C₁-C₁₀ alkylaryl or C₁-C₁₀ alkylheteroaryl;

wherein R_c is

25 (I) $[-(\text{CH}_2)_{(0-8)}-(\text{CH})(\text{alkyl}_1)(\text{alkyl}_2)]$, where alkyl₁ and alkyl₂ are straight or branched C₂₋₁₀ alkanyl, alkenyl or alkynyl, and wherein alkyl₁ and alkyl₂ attach to the same or different methylene carbon with the remaining open methylene valences occupied by hydrogen, thus forming a branched alkyl chain having between 8 and 20 carbon atoms in total;

30 the alkyl groups, alkyl₁ and alkyl₂ being optionally substituted with one, two or three substituents selected from the group consisting of C₁-C₃ alkyl, halogen, -OH, -SH, -C≡N, -CF₃, C₁-C₃ alkoxy, -O-phenyl, -C(O)C₁-C₃ alkyl, -NR_{1-a}R_{1-b} where R_{1-a} and R_{1-b} are -H or C₁-C₆ alkyl, -OC=O NR_{1-a}R_{1-b}, -S(=O)₀₋₂, -NR_{1-a}C=O NR_{1-a}R_{1-b}, -C=O NR_{1-a}R_{1-b}, and -S(=O)₂ NR_{1-a}R_{1-b};

(II) $-(C(Rc-x)(Rc-y))_{(0-4)}-Rc-cycle$

wherein each Rc-x and Rc-y is independently chosen from:

H

C₁ - C₆ alkyl

5 C₁ - C₆ alkoxy

C₂-C₆ alkenyl or alkynyl

$-(CH_2)_{0-4}-Rc-cycle$ where Rc-cycle is as defined below

and Rc-x and Rc-y may be taken together with the

methylene carbon to which they jointly attach to form a

10 spirocyclic ring of 3 to 7 atoms comprising carbon and up to 2 of O, S(O)₍₀₋₂₎ and NR_{a'}, wherein R_{a'} is H or C₁₋₄ alkyl;

wherein the spirocyclic ring may be fused to another

ring to provide a bicyclic ring system comprising

15 carbon and up to 2 of O, S(O)₍₀₋₂₎ and NR_{a'}, and

comprising up to 9 atoms in total including,

Rc-cycle is an aryl, heteroaryl, or cycloalkyl ring or a

fused-ring system consisting of no more than three rings

where each of the rings is the same or different and is

20 an aryl, heteroaryl, or cycloalkyl ring

wherein Rc-cycle is optionally substituted with up to four substituents independently selected from:

(1) C₁-C₆ alkyl optionally substituted with one, two or three substituents selected from the group consisting
25 of C₁-C₃ alkyl, halogen, -OH, -SH, -C≡N, -CF₃, C₁-C₃ alkoxy, and -NR_{1-a}R_{1-b},

(2) C₂-C₆ alkenyl or alkynyl with one or two unsaturated bonds, optionally substituted with one, two or three substituents selected from the group consisting of -F, -
30 Cl, -OH, -SH, -C≡N, -CF₃, C₁-C₃ alkoxy, and -NR_{1-a}R_{1-b},

(3) halogen,

(4) C₁-C₆ alkoxy,

(5) -C₁-C₆ alkoxy optionally substituted with one, two, or three of -F,

(6) $-NR_{N-6}R_{N-7}$ where R_{N-6} and R_{N-7} are the same or different and are selected from the group consisting of:

(a) $-H$,

(b) $-C_1-C_6$ alkyl optionally

5 substituted with one substituent selected from the group consisting of:

(i) $-OH$, and

(ii) $-NH_2$,

(c) $-C_1-C_6$ alkyl optionally

10 substituted with one to three $-F$, $-Cl$, $-Br$, or $-I$,

(d) $-C_3-C_7$ cycloalkyl,

(e) $-(C_1-C_2 \text{ alkyl})-(C_3-C_7 \text{ cycloalkyl})$,

(f) $-(C_1-C_6 \text{ alkyl})-O-(C_1-C_3 \text{ alkyl})$,

(g) $-C_2-C_6$ alkenyl with one or two

15 double bonds,

(h) $-C_2-C_6$ alkynyl with one or two

triple bonds,

(i) $-C_1-C_6$ alkyl chain with one double bond and one triple bond,

20 (j) $-R_{1-aryl}$ where R_{1-aryl} is as defined above, and

(k) $-R_{1-heteroaryl}$ where $R_{1-heteroaryl}$ is as defined above,

(7) $-OH$,

25 (8) $-C\equiv N$,

(9) C_3-C_7 cycloalkyl, optionally substituted with one, two or three substituents selected from the group consisting of $-F$, $-Cl$, $-OH$, $-SH$, $-C\equiv N$, $-CF_3$, C_1-C_3 alkoxy, and $-NR_{1-a}R_{1-b}$,

30 (10) $-CO-(C_1-C_4 \text{ alkyl})$,

(11) $-SO_2-NR_{1-a}R_{1-b}$,

(12) $-CO-NR_{1-a}R_{1-b}$,

(13) $-SO_2-(C_1-C_4 \text{ alkyl})$,

and when there is a saturated carbon atom in R_c -cycle

(14) oxo,
 (15) oxime
 (16) ketal rings of 5 to 7 members, and
 (17) a spirocyclic ring having from 3 to 7
 5 atoms comprising carbon and when the ring size is 4-7 atoms
 optionally up to 2 of O, S(O)₍₀₋₂₎ and NR_a. (IV) -(CR_{C-x}R_{C-y})₀₋₄-
 heteroaryl,
 (III) -(CR_{C-x}R_{C-y})₀₋₄-aryl-aryl ,
 (IV) -(CR_{C-x}R_{C-y})₀₋₄-aryl-heteroaryl,
 10 (V) -(CR_{C-x}R_{C-y})₀₋₄- heteroaryl-aryl,
 (VI) -(CR_{C-x}R_{C-y})₀₋₄- heteroaryl-heteroaryl,
 (VII) -(CR_{C-x}R_{C-y})₀₋₄- aryl-heterocycle,
 (VIII) -(CR_{C-x}R_{C-y})₀₋₄-heteroaryl-heterocycle,
 (IX) -(CR_{C-x}R_{C-y})₀₋₄-heterocycle-aryl,
 15 (X) -(CR_{C-x}R_{C-y})₀₋₄-heterocycle-heteroaryl,
 (XI) -(CR_{C-x}R_{C-y})₀₋₄- heterocycle-heterocycle,
 (XII) -[C(R_{C-1})(R_{C-2})]₁₋₃-[CO]₀₋₁-N-(R_{C-3})₂ where each R_{C-1} is
 the same or different and is selected from the group
 consisting of: H, C₁₋₄ alkyl and C₁₋₄ alkoxy and
 20 where each R_{C-2} and R_{C-3} is independently selected from
 (A) -C₁-C₆ alkyl, optionally substituted with one,
 two or three substituents selected from the group consisting
 of C₁-C₃ alkyl, -F, -Cl, -Br, -I, -OH, -SH, -C≡N, -CF₃, C₁-C₆
 alkoxy, -O- phenyl, and -NR_{1-a}R_{1-b},
 25 (B) C₂-C₆ alkenyl or alkynyl with one or two
 unsaturated bonds, optionally substituted with one, two or
 three substituents selected from the group consisting of C₁-C₃
 alkyl, -F, -Cl, -Br, -I, -OH, -SH, -C≡N, -CF₃, C₁-C₆ alkoxy, -O-
 phenyl, and
 30 -NR_{1-a}R_{1-b},
 (C) -(CH₂)₁₋₂-S(O)₀₋₂-(C₁-C₆ alkyl),
 (D) -(CH₂)₀₋₄-C₃-C₇ cycloalkyl optionally substituted
 with one, two or three substituents selected from the group
 consisting of C₁-C₃ alkyl, -F, -Cl,

-Br, -I, -OH, -SH, -C≡N, -CF₃, C₁-C₆ alkoxy, -O- phenyl, -NR_{1-a}R_{1-b},

(E) -(CH₂)₀₋₄-5-7 membered heterocycle optionally substituted with one, two or three substituents selected from the group consisting of C₁-C₃ alkyl, -F, -Cl, -Br, -I, -OH, -SH, -C≡N, -CF₃, C₁-C₆ alkoxy, -O- phenyl, oxo, -NR_{1-a}R_{1-b},

(XIII) -CH(aryl)₂ where each aryl is the same or different,

10 (XIV) -CH(heteroaryl)₂ where each heteroaryl is the same or different and are as defined above,

(XVIII) -CH(aryl)(heteroaryl),

wherein R_N is R'₁₀₀, -(CRR')₁₋₆-R'₁₀₀, -(CRR')₀₋₆R₁₀₀, -(CRR')₁₋₆-O-R'₁₀₀, -(CRR')₁₋₆-S-R'₁₀₀, -(CRR')₁₋₆-C(=O)-R₁₀₀, -(CRR')₁₋₆-SO₂-R₁₀₀, -(CRR')₁₋₆-NR₁₀₀-R'₁₀₀ or -SO₂R'₁₀₀, with the proviso that when R_N is -SO₂R'₁₀₀, X is not -S(=O)_n- or -C(=S)-; wherein

R₁₀₀ and R'₁₀₀ independently represent aryl, heteroaryl, -aryl-W-aryl, -aryl-W-heteroaryl, -aryl-W-heterocyclyl, -heteroaryl-W-aryl, -heteroaryl-W-heteroaryl, -heteroaryl-W-heterocyclyl, -heterocyclyl-W-aryl, -heterocyclyl-W-heteroaryl, -heterocyclyl-W-heterocyclyl, -CH[(CH₂)₀₋₂-O-R₁₅₀]- (CH₂)₀₋₂-aryl, -CH[(CH₂)₀₋₂-O-R₁₅₀]- (CH₂)₀₋₂-heterocyclyl or -CH[(CH₂)₀₋₂-O-R₁₅₀]- (CH₂)₀₋₂-heteroaryl, where the ring portions of each are optionally substituted with 1, 2, or 3 groups independently selected from

-OR, -NO₂, halogen, -C≡N, -OCF₃, -CF₃, -(CH₂)₀₋₄-O-P(=O)(OR)(OR'), -(CH₂)₀₋₄-CO-NR₁₀₅R'₁₀₅, -(CH₂)₀₋₄-O-(CH₂)₀₋₄-CONR₁₀₂R'₁₀₂', -(CH₂)₀₋₄-CO-(C₁-C₁₂ alkyl), -(CH₂)₀₋₄-CO-(C₂-C₁₂ alkenyl), -(CH₂)₀₋₄-CO-(C₂-C₁₂ alkynyl), -(CH₂)₀₋₄-CO-(CH₂)₀₋₄(C₃-C₇ cycloalkyl), -(CH₂)₀₋₄-R₁₁₀, -(CH₂)₀₋₄-R₁₂₀, -(CH₂)₀₋₄-R₁₃₀, -(CH₂)₀₋₄-CO-R₁₁₀, -(CH₂)₀₋₄-CO-R₁₂₀, -(CH₂)₀₋₄-CO-R₁₃₀, -(CH₂)₀₋₄-CO-R₁₄₀, -(CH₂)₀₋₄-

CO-O-R₁₅₀, -(CH₂)₀₋₄-SO₂-NR₁₀₅R'₁₀₅, -(CH₂)₀₋₄-SO-(C₁-C₈
 alkyl), -(CH₂)₀₋₄-SO₂-(C₁-C₁₂ alkyl), -(CH₂)₀₋₄-SO₂-
 (CH₂)₀₋₄-(C₃-C₇ cycloalkyl), -(CH₂)₀₋₄-N(R₁₅₀)-CO-O-R₁₅₀,
 -(CH₂)₀₋₄-N(R₁₅₀)-CO-N(R₁₅₀)₂, -(CH₂)₀₋₄-N(R₁₅₀)-CS-
 5 N(R₁₅₀)₂, -(CH₂)₀₋₄-N(R₁₅₀)-CO-R₁₀₅, -(CH₂)₀₋₄-NR₁₀₅R'₁₀₅,
 -(CH₂)₀₋₄-R₁₄₀, -(CH₂)₀₋₄-O-CO-(C₁-C₆ alkyl), -(CH₂)₀₋₄-O-
 P(O)-(O-R₁₁₀)₂, -(CH₂)₀₋₄-O-CO-N(R₁₅₀)₂, -(CH₂)₀₋₄-O-CS-
 N(R₁₅₀)₂, -(CH₂)₀₋₄-O-(R₁₅₀), -(CH₂)₀₋₄-O-R₁₅₀'-COOH, -
 (CH₂)₀₋₄-S-(R₁₅₀), -(CH₂)₀₋₄-N(R₁₅₀)-SO₂-R₁₀₅, -(CH₂)₀₋₄-
 10 C₃-C₇ cycloalkyl, (C₂-C₁₀)alkenyl, or (C₂-C₁₀)alkynyl,
 or

R₁₀₀ is C₁-C₁₀ alkyl optionally substituted with 1, 2, or 3 R₁₁₅
 groups, or

15 R₁₀₀ is -(C₁-C₆ alkyl)-O-C₁-C₆ alkyl) or -(C₁-C₆ alkyl)-S-(C₁-C₆
 alkyl), each of which is optionally substituted with 1,
 2, or 3 R₁₁₅ groups, or

R₁₀₀ is C₃-C₈ cycloalkyl optionally substituted with 1, 2, or 3
 R₁₁₅ groups;

W is -(CH₂)₀₋₄-, -O-, -S(O)₀₋₂-, -N(R₁₃₅)-, -CR(OH)- or -C(O)-;

20 R₁₀₂ and R₁₀₂' independently are hydrogen, or
 C₁-C₁₀ alkyl optionally substituted with 1, 2, or 3 groups
 that are independently halogen, aryl or -R₁₁₀;

R₁₀₅ and R'₁₀₅ independently represent -H, -R₁₁₀, -R₁₂₀, C₃-C₇
 cycloalkyl, -(C₁-C₂ alkyl)-(C₃-C₇ cycloalkyl), -(C₁-C₆
 25 alkyl)-O-(C₁-C₃ alkyl), C₂-C₆ alkenyl, C₂-C₆ alkynyl, or C₁-
 C₆ alkyl chain with one double bond and one triple bond,
 or

C₁-C₆ alkyl optionally substituted with -OH or -NH₂; or,
 C₁-C₆ alkyl optionally substituted with 1, 2, or 3 groups
 30 independently selected from halogen, or

R₁₀₅ and R'₁₀₅ together with the atom to which they are attached
 form a 3 to 7 membered carbocyclic ring, where one member
 is optionally a heteratom selected from -O-, -S(O)₀₋₂-, -

N(R₁₃₅)-, the ring being optionally substituted with 1, 2 or three R₁₄₀ groups;

R₁₁₅ at each occurrence is independently halogen, -OH, -CO₂R₁₀₂, -C₁-C₆ thioalkoxy, -CO₂-phenyl, -NR₁₀₅R'₁₃₅, -SO₂-(C₁-C₈ alkyl), -C(=O)R₁₈₀, R₁₈₀, -CONR₁₀₅R'₁₀₅, -SO₂NR₁₀₅R'₁₀₅, -NH-CO-(C₁-C₆ alkyl), -NH-C(=O)-OH, -NH-C(=O)-OR, -NH-C(=O)-O-phenyl, -O-C(=O)-(C₁-C₆ alkyl), -O-C(=O)-amino, -O-C(=O)-mono- or dialkylamino, -O-C(=O)-phenyl, -O-(C₁-C₆ alkyl)-CO₂H, -NH-SO₂-(C₁-C₆ alkyl), C₁-C₆ alkoxy or C₁-C₆ haloalkoxy;

R₁₃₅ is C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃-C₇ cycloalkyl, -(CH₂)₀₋₂-(aryl), -(CH₂)₀₋₂-(heteroaryl), or -(CH₂)₀₋₂-(heterocyclyl);

R₁₄₀ is heterocyclyl optionally substituted with 1, 2, 3, or 4 groups independently selected from C₁-C₆ alkyl, C₁-C₆ alkoxy, halogen, hydroxy, cyano, nitro, amino, mono(C₁-C₆)alkylamino, di(C₁-C₆)alkylamino, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ haloalkyl, C₁-C₆ haloalkoxy, amino(C₁-C₆)alkyl, mono(C₁-C₆)alkylamino(C₁-C₆)alkyl, di(C₁-C₆)alkylamino(C₁-C₆)alkyl, and =O;

R₁₅₀ is hydrogen, C₃-C₇ cycloalkyl, -(C₁-C₂ alkyl)-(C₃-C₇ cycloalkyl), C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkyl with one double bond and one triple bond, -R₁₁₀, -R₁₂₀, or C₁-C₆ alkyl optionally substituted with 1, 2, 3, or 4 groups independently selected from -OH, -NH₂, C₁-C₃ alkoxy, R₁₁₀, and halogen;

R₁₅₀' is C₃-C₇ cycloalkyl, -(C₁-C₃ alkyl)-(C₃-C₇ cycloalkyl), C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkyl with one double bond and one triple bond, -R₁₁₀, -R₁₂₀, or C₁-C₆ alkyl optionally substituted with 1, 2, 3, or 4 groups independently selected from -OH, -NH₂, C₁-C₃ alkoxy, R₁₁₀, and halogen;

R₁₈₀ is selected from morpholinyl, thiomorpholinyl, piperazinyl, piperidinyl, homomorpholinyl,

homothiomorpholinyl, homothiomorpholinyl S-oxide, homothiomorpholinyl S,S-dioxide, pyrrolinyl and pyrrolidinyl, each of which is optionally substituted with 1, 2, 3, or 4 groups independently selected from C₁-C₆ alkyl, C₁-C₆ alkoxy, halogen, hydroxy, cyano, nitro, amino, mono(C₁-C₆)alkylamino, di(C₁-C₆)alkylamino, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ haloalkyl, C₁-C₆ haloalkoxy, amino(C₁-C₆)alkyl, mono(C₁-C₆)alkylamino(C₁-C₆)alkyl, di(C₁-C₆)alkylamino(C₁-C₆)alkyl, and =O;

10 R₁₁₀ is aryl optionally substituted with 1 or 2 R₁₂₅ groups; R₁₂₅ at each occurrence is independently halogen, amino, mono- or dialkylamino, -OH, -C≡N, -SO₂-NH₂, -SO₂-NH-C₁-C₆ alkyl, -SO₂-N(C₁-C₆ alkyl)₂, -SO₂-(C₁-C₄ alkyl), -CO-NH₂, -CO-NH-C₁-C₆ alkyl, or -CO-N(C₁-C₆ alkyl)₂, or

15 C₁-C₆ alkyl, C₂-C₆ alkenyl or C₂-C₆ alkynyl, each of which is optionally substituted with 1, 2, or 3 groups that are independently selected from C₁-C₃ alkyl, halogen, -OH, -SH, -C≡N, -CF₃, C₁-C₃ alkoxy, amino, and mono- and dialkylamino, or

20 C₁-C₆ alkoxy optionally substituted with one, two or three of halogen;

R₁₂₀ is heteroaryl, which is optionally substituted with 1 or 2 R₁₂₅ groups; and

R₁₃₀ is heterocyclyl optionally substituted with 1 or 2 R₁₂₅ groups; and

25 R₂ is selected from the group consisting of H; C₁-C₆ alkyl, optionally substituted with 1, 2, or 3 substituents that are independently selected from the group consisting of C₁-C₃ alkyl, halogen, -OH, -SH, -C≡N, -CF₃, C₁-C₃ alkoxy, and -NR_{1-a}R_{1-b}; wherein

30 R_{1-a} and R_{1-b} are -H or C₁-C₆ alkyl; -(CH₂)₀₋₄-aryl; -(CH₂)₀₋₄-heteroaryl; C₂-C₆ alkenyl; C₂-C₆ alkynyl; -CONR_{N-2}R_{N-3}; -SO₂NR_{N-2}R_{N-3}; -CO₂H; and -CO₂-(C₁-C₄ alkyl);

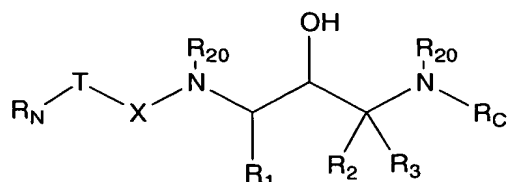
R_3 is selected from the group consisting of H; C_1-C_6 alkyl, optionally substituted with 1, 2, or 3 substituents independently selected from the group consisting of C_1-C_3 alkyl, halogen, -OH, -SH, -C \equiv N, -CF $_3$, C_1-C_3 alkoxy, and -NR $_{1-a}$ R $_{1-b}$; -(CH $_2$) $_{0-4}$ -aryl; -(CH $_2$) $_{0-4}$ -heteroaryl; C_2-C_6 alkenyl; C_2-C_6 alkynyl; -CO-NR $_{N-2}$ R $_{N-3}$; -SO $_2$ -NR $_{N-2}$ R $_{N-3}$; -CO $_2$ H; and -CO-O-(C_1-C_4 alkyl); wherein

R $_{N-2}$ and R $_{N-3}$ at each occurrence are independently selected from the group consisting of - C_1-C_8 alkyl optionally substituted with 1, 2, or 3 groups independently selected from the group consisting of -OH, -NH $_2$, phenyl and halogen; - C_3-C_8 cycloalkyl; -(C_1-C_2 alkyl)-(C_3-C_8 cycloalkyl); -(C_1-C_6 alkyl)-O-(C_1-C_3 alkyl); - C_2-C_6 alkenyl; - C_2-C_6 alkynyl; - C_1-C_6 alkyl chain with one double bond and one triple bond; aryl; heteroaryl; heterocycloalkyl; or

R $_{N-2}$, R $_{N-3}$ and the nitrogen to which they are attached form a 5, 6, or 7 membered heterocycloalkyl or heteroaryl group, wherein said heterocycloalkyl or heteroaryl group is optionally fused to a benzene, pyridine, or pyrimidine ring, and said groups are unsubstituted or substituted with 1, 2, 3, 4, or 5 groups that at each occurrence are independently C_1-C_6 alkyl, C_1-C_6 alkoxy, halogen, halo C_1-C_6 alkyl, halo C_1-C_6 alkoxy, -CN, -NO $_2$, -NH $_2$, NH(C_1-C_6 alkyl), N(C_1-C_6 alkyl)(C_1-C_6 alkyl), -OH, -C(O)NH $_2$, -C(O)NH(C_1-C_6 alkyl), -C(O)N(C_1-C_6 alkyl)(C_1-C_6 alkyl), C_1-C_6 alkoxy C_1-C_6 alkyl, C_1-C_6 thioalkoxy, and C_1-C_6 thioalkoxy C_1-C_6 alkyl; or

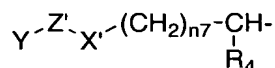
R $_2$, R $_3$ and the carbon to which they are attached form a carbocycle of three thru seven carbon atoms, wherein one carbon atom is optionally replaced by a group selected from -O-, -S-, -SO $_2$ -, or -NR $_{N-2}$ -.

2. A compound of the formula:



or a pharmaceutically acceptable salt or ester thereof;
 wherein X, T, R₂₀, R₁, R₂, R₃ and R_C are as defined in claim 1
 and wherein R_N is

5



wherein

R₄ is selected from the group consisting of H; NH₂; -NH-
 (CH₂)_{n₆}-R₄₋₁; -NHR₈; -NR₅₀C(O)R₅; C₁-C₄ alkyl-NHC(O)R₅;
 10 -(CH₂)₀₋₄R₈; -O-C₁-C₄ alkanoyl; OH; C₆-C₁₀ aryloxy optionally
 substituted with 1, 2, or 3 groups that are independently
 halogen, C₁-C₄ alkyl, -CO₂H, -C(O)-C₁-C₄ alkoxy, or C₁-C₄
 alkoxy; C₁-C₆ alkoxy; aryl C₁-C₄ alkoxy; -NR₅₀CO₂R₅₁; -C₁-C₄
 alkyl-NR₅₀CO₂R₅₁; -C≡N; -CF₃; -CF₂-CF₃; -C≡CH; -CH₂-CH=CH₂; -
 15 (CH₂)₁₋₄-R₄₋₁; -(CH₂)₁₋₄-NH-R₄₋₁; -O-(CH₂)_{n₆}-R₄₋₁; -S-(CH₂)_{n₆}-R₄₋₁;
 -(CH₂)₀₋₄-NHC(O)-(CH₂)₀₋₆-R₅₂; -(CH₂)₀₋₄-R₅₃-(CH₂)₀₋₄-R₅₄;

wherein

n₆ is 0, 1, 2, or 3;

n₇ is 0, 1, 2, or 3;

20 R₄₋₁ is selected from the group consisting of -SO₂-(C₁-C₈
 alkyl), -SO-(C₁-C₈ alkyl), -S-(C₁-C₈ alkyl), -S-CO-
 (C₁-C₆ alkyl), -SO₂-NR₄₋₂R₄₋₃; -CO-C₁-C₂ alkyl; -CO-NR₄₋
₃R₄₋₄;

R₄₋₂ and R₄₋₃ are independently H, C₁-C₃ alkyl, or C₃-C₆
 25 cycloalkyl;

R₄₋₄ is alkyl, arylalkyl, alkanoyl, or arylalkanoyl;

R₄₋₆ is-H or C₁-C₆ alkyl;

R₅ is selected from the group consisting of C₃-C₇
 cycloalkyl; C₁-C₆ alkyl optionally substituted with
 30 1, 2, or 3 groups that are independently halogen,

-NR₆R₇, C₁-C₄ alkoxy, C₅-C₆ heterocycloalkyl, C₅-C₆
 heteroaryl, C₆-C₁₀ aryl, C₃-C₇ cycloalkyl C₁-C₄ alkyl,
 -S-C₁-C₄ alkyl, -SO₂-C₁-C₄ alkyl, -CO₂H, -CONR₆R₇, -CO₂-
 C₁-C₄ alkyl, C₆-C₁₀ aryloxy; heteroaryl optionally
 5 substituted with 1, 2, or 3 groups that are
 independently C₁-C₄ alkyl, C₁-C₄ alkoxy, halogen, C₁-C₄
 haloalkyl, or OH; heterocycloalkyl optionally
 substituted with 1, 2, or 3 groups that are
 independently C₁-C₄ alkyl, C₁-C₄ alkoxy, halogen, or
 10 C₂-C₄ alkanoyl; aryl optionally substituted with 1,
 2, 3, or 4 groups that are independently halogen, OH,
 C₁-C₄ alkyl, C₁-C₄ alkoxy, or C₁-C₄ haloalkyl; and
 -NR₆R₇; wherein
 R₆ and R₇ are independently selected from the group
 15 consisting of H, C₁-C₆ alkyl, C₂-C₆ alkanoyl,
 phenyl, -SO₂-C₁-C₄ alkyl, phenyl C₁-C₄ alkyl;
 R₈ is selected from the group consisting of -SO₂-
 heteroaryl, -SO₂-aryl, -SO₂-heterocycloalkyl, -SO₂-C₁-
 C₁₀ alkyl, -C(O)NHR₉, heterocycloalkyl, -S-C₁-C₆
 20 alkyl, -S-C₂-C₄ alkanoyl, wherein
 R₉ is aryl C₁-C₄ alkyl, C₁-C₆ alkyl, or H;
 R₅₀ is H or C₁-C₆ alkyl;
 R₅₁ is selected from the group consisting of aryl C₁-C₄
 alkyl; C₁-C₆ alkyl optionally substituted with 1, 2,
 25 or 3 groups that are independently halogen, cyano,
 heteroaryl, -NR₆R₇, -C(O)NR₆R₇, C₃-C₇ cycloalkyl, or
 -C₁-C₄ alkoxy; heterocycloalkyl optionally
 substituted with 1 or 2 groups that are independently
 C₁-C₄ alkyl, C₁-C₄ alkoxy, halogen, C₂-C₄ alkanoyl,
 30 aryl C₁-C₄ alkyl, and -SO₂ C₁-C₄ alkyl; alkenyl;
 alkynyl; heteroaryl optionally substituted with 1, 2,
 or 3 groups that are independently OH, C₁-C₄ alkyl,
 C₁-C₄ alkoxy, halogen, NH₂, NH(C₁-C₆ alkyl) or N(C₁-C₆
 alkyl)(C₁-C₆ alkyl); heteroarylalkyl optionally

substituted with 1, 2, or 3 groups that are independently C₁-C₄ alkyl, C₁-C₄ alkoxy, halogen, NH₂, NH(C₁-C₆ alkyl) or N(C₁-C₆ alkyl)(C₁-C₆ alkyl); aryl; heterocycloalkyl; C₃-C₈ cycloalkyl; and cycloalkylalkyl; wherein the aryl; heterocycloalkyl, C₃-C₈ cycloalkyl, and cycloalkylalkyl groups are optionally substituted with 1, 2, 3, 4 or 5 groups that are independently halogen, CN, NO₂, C₁-C₆ alkyl, C₁-C₆ alkoxy, C₂-C₆ alkanoyl, C₁-C₆ haloalkyl, C₁-C₆ haloalkoxy, hydroxy, C₁-C₆ hydroxyalkyl, C₁-C₆ alkoxy C₁-C₆ alkyl, C₁-C₆ thioalkoxy, C₁-C₆ thioalkoxy C₁-C₆ alkyl, or C₁-C₆ alkoxy C₁-C₆ alkoxy;

R₅₂ is heterocycloalkyl, heteroaryl, aryl, cycloalkyl, -S(O)₀₋₂-C₁-C₆ alkyl, CO₂H, -C(O)NH₂, -C(O)NH(alkyl), -C(O)N(alkyl)(alkyl), -CO₂-alkyl, -NHS(O)₀₋₂-C₁-C₆ alkyl, -N(alkyl)S(O)₀₋₂-C₁-C₆ alkyl, -S(O)₀₋₂-heteroaryl, -S(O)₀₋₂-aryl, -NH(arylalkyl), -N(alkyl)(arylalkyl), thioalkoxy, or alkoxy, each of which is optionally substituted with 1, 2, 3, 4, or 5 groups that are independently alkyl, alkoxy, thioalkoxy, halogen, haloalkyl, haloalkoxy, alkanoyl, NO₂, CN, alkoxycarbonyl, or aminocarbonyl;

R₅₃ is absent, -O-, -C(O)-, -NH-, -N(alkyl)-, -NH-S(O)₀₋₂-, -N(alkyl)-S(O)₀₋₂-, -S(O)₀₋₂-NH-, -S(O)₀₋₂-N(alkyl)-, -NH-C(S)-, or -N(alkyl)-C(S)-;

R₅₄ is heteroaryl, aryl, arylalkyl, heterocycloalkyl, CO₂H, -CO₂-alkyl, -C(O)NH(alkyl), -C(O)N(alkyl)(alkyl), -C(O)NH₂, C₁-C₈ alkyl, OH, aryloxy, alkoxy, arylalkoxy, NH₂, NH(alkyl), N(alkyl)(alkyl), or -C₁-C₆ alkyl-CO₂-C₁-C₆ alkyl, each of which is optionally substituted with 1, 2, 3, 4, or 5 groups that are independently alkyl, alkoxy, CO₂H, -CO₂-alkyl, thioalkoxy, halogen, haloalkyl, haloalkoxy,

hydroxyalkyl, alkanoyl, NO₂, CN, alkoxycarbonyl, or aminocarbonyl;

X' is selected from the group consisting of -C₁-C₆ alkylidenyl optionally optionally substituted with 1, 2, or 3 methyl groups; and -NR₄₋₆-; or

R₄ and R₄₋₆ combine to form -(CH₂)_{n10}-, wherein n₁₀ is 1, 2, 3, or 4;

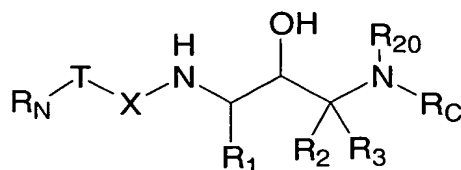
Z' is selected from the group consisting of a bond; SO₂; SO; S; and C(O);

Y is selected from the group consisting of H; C₁-C₄ haloalkyl; C₅-C₆ heterocycloalkyl; C₆-C₁₀ aryl; OH; -N(Y₁)(Y₂); C₁-C₁₀ alkyl optionally substituted with 1 thru 3 substituents which can be the same or different and are selected from the group consisting of halogen, hydroxy, alkoxy, thioalkoxy, and haloalkoxy; C₃-C₈ cycloalkyl optionally substituted with 1, 2, or 3 groups independently selected from C₁-C₃ alkyl, and halogen; alkoxy; aryl optionally substituted with halogen, alkyl, alkoxy, CN or NO₂; arylalkyl optionally substituted with halogen, alkyl, alkoxy, CN or NO₂; wherein

Y₁ and Y₂ are the same or different and are H; C₁-C₁₀ alkyl optionally substituted with 1, 2, or 3 substituents selected from the group consisting of halogen, C₁-C₄ alkoxy, C₃-C₈ cycloalkyl, and OH; C₂-C₆ alkenyl; C₂-C₆ alkanoyl; phenyl; -SO₂-C₁-C₄ alkyl; phenyl C₁-C₄ alkyl; or C₃-C₈ cycloalkyl C₁-C₄ alkyl; or

Y₁, Y₂ and the nitrogen to which they are attached form a ring selected from the group consisting of piperazinyl, piperidinyl, morpholinyl, and pyrrolidinyl, wherein each ring is optionally substituted with 1, 2, 3, or 4 groups that are independently C₁-C₆ alkyl, C₁-C₆ alkoxy, C₁-C₆ alkoxy C₁-C₆ alkyl, or halogen.

3. A compound according to claim 1 of the formula



or a pharmaceutically acceptable salt or ester thereof wherein
 R_C is selected from $-(CH_2)_{0-3}-(C_3-C_8)$ cycloalkyl wherein the
 cycloalkyl is optionally substituted with 1, 2, or 3
 5 groups independently selected from $-R_{205}$; and $-CO_2-(C_1-C_4$
 alkyl); $-(CR_{245}R_{250})_{0-4}$ -aryl; $-(CR_{245}R_{250})_{0-4}$ -heteroaryl;
 $-(CR_{245}R_{250})_{0-4}$ -heterocycloalkyl; $-(CR_{245}R_{250})_{0-4}$ -aryl-
 heteroaryl; $-(CR_{245}R_{250})_{0-4}$ -aryl-heterocycloalkyl;
 $-(CR_{245}R_{250})_{0-4}$ -aryl-aryl; $-(CR_{245}R_{250})_{0-4}$ -heteroaryl-aryl;
 10 $-(CR_{245}R_{250})_{0-4}$ -heteroaryl-heterocycloalkyl; $-(CR_{245}R_{250})_{0-4}$ -
 heteroaryl-heteroaryl; $-CHR_{245}-CHR_{250}$ -aryl; $-(CR_{245}R_{250})_{0-4}$ -
 heterocycloalkyl-heteroaryl; $-(CR_{245}R_{250})_{0-4}$ -
 heterocycloalkyl-heterocycloalkyl; $-(CR_{245}R_{250})_{0-4}$ -
 heterocycloalkyl-aryl; a monocyclic or bicyclic ring of 5,
 15 6, 7 8, 9, or 10 carbons fused to 1 or 2 aryl, heteroaryl,
 or heterocycloalkyl groups;

wherein 1, 2 or 3 carbons of the monocyclic or bicyclic ring
 are optionally replaced with $-NH-$, $-N(CO)_{0-1}R_{215}-$,
 $-N(CO)_{0-1}R_{220}-$, $-O-$, or $-S(=O)_{0-2}-$, and wherein the
 20 monocyclic or bicyclic ring is optionally substituted with
 1, 2 or 3 groups that are independently $-R_{205}$, $-R_{245}$, $-R_{250}$
 or $=O$;

and $-C_2-C_6$ alkenyl optionally substituted with 1, 2, or 3
 R_{205} groups;

25 wherein each aryl or heteroaryl group attached directly or
 indirectly to the $-(CR_{245}R_{250})_{0-4}$ group is optionally
 substituted with 1, 2, 3 or 4 R_{200} groups;

wherein each heterocycloalkyl attached directly or
 indirectly to the $-(CR_{245}R_{250})_{0-4}$ group is optionally
 30 substituted with 1, 2, 3, or 4 R_{210} ;

R_{200} at each occurrence is independently selected from
 $-C_1-C_6$ alkyl optionally substituted with 1, 2,

or 3 R_{205} groups; -OH; -NO₂; -halogen; -C≡N;
 -(CH₂)₀₋₄-CO-NR₂₂₀R₂₂₅; -(CH₂)₀₋₄-CO-(C₁-C₈ alkyl);
 -(CH₂)₀₋₄-CO-(C₂-C₈ alkenyl); -(CH₂)₀₋₄-CO-(C₂-C₈
 alkynyl); -(CH₂)₀₋₄-CO-(C₃-C₇ cycloalkyl); -(CH₂)₀₋₄-
 5 (CO)₀₋₁-aryl; -(CH₂)₀₋₄-(CO)₀₋₁-heteroaryl;
 -(CH₂)₀₋₄-(CO)₀₋₁-heterocycloalkyl; -(CH₂)₀₋₄-
 CO₂R₂₁₅; -(CH₂)₀₋₄-SO₂-NR₂₂₀R₂₂₅; -(CH₂)₀₋₄-S(O)₀₋₂-
 (C₁-C₈ alkyl); -(CH₂)₀₋₄-S(O)₀₋₂-(C₃-C₇
 cycloalkyl); -(CH₂)₀₋₄-N(H or R₂₁₅)-CO₂R₂₁₅;
 10 -(CH₂)₀₋₄-N(H or R₂₁₅)-SO₂-R₂₂₀; -(CH₂)₀₋₄-N(H or
 R₂₁₅)-CO-N(R₂₁₅)₂; -(CH₂)₀₋₄-N(-H or R₂₁₅)-CO-R₂₂₀;
 -(CH₂)₀₋₄-NR₂₂₀R₂₂₅; -(CH₂)₀₋₄-O-CO-(C₁-C₆ alkyl);
 -(CH₂)₀₋₄-O-(R₂₁₅); -(CH₂)₀₋₄-S-(R₂₁₅); -(CH₂)₀₋₄-O-
 (C₁-C₆ alkyl optionally substituted with 1, 2,
 15 3, or 5 -F); -C₂-C₆ alkenyl optionally
 substituted with 1 or 2 R_{205} groups; -C₂-C₆
 alkynyl optionally substituted with 1 or 2 R_{205}
 groups; adamantyl, and -(CH₂)₀₋₄-C₃-C₇
 cycloalkyl;
 20 each aryl and heteroaryl group included within
 R_{200} is optionally substituted with 1, 2, or
 3 groups that are independently -R₂₀₅, -R₂₁₀
 or -C₁-C₆ alkyl substituted with 1, 2, or 3
 groups that are independently R_{205} or R_{210} ;
 25 each heterocycloalkyl group included within R_{200}
 is optionally substituted with 1, 2, or 3
 groups that are independently R_{210} ;
 R_{205} at each occurrence is independently selected from
 -C₁-C₆ alkyl, -C₂-C₆ alkenyl, -C₂-C₆ alkynyl, -C₁-
 30 C₆ haloalkoxy, -(CH₂)₀₋₃(C₃-C₇ cycloalkyl), -
 halogen, -(CH₂)₀₋₆-OH, -O-phenyl, OH, SH, -(CH₂)₀₋₆-
 C≡N, -(CH₂)₀₋₆-C(=O)NR₂₃₅R₂₄₀, -CF₃, -C₁-C₆
 alkoxy, C₁-C₆ alkoxycarbonyl, and -NR₂₃₅R₂₄₀;

R_{210} at each occurrence is independently selected from
 $-C_1-C_6$ alkyl optionally substituted with 1, 2,
or 3 R_{205} groups; $-C_2-C_6$ alkenyl optionally
substituted with 1, 2, or 3 R_{205} groups; C_1-C_6
5 alkanoyl; $-SO_2-(C_1-C_6 \text{ alkyl})$; $-C_2-C_6$ alkynyl
optionally substituted with 1, 2, or 3 R_{205}
groups; -halogen; $-C_1-C_6$ alkoxy; $-C_1-C_6$
haloalkoxy; $-NR_{220}R_{225}$; $-OH$; $-C\equiv N$; $-C_3-C_7$
cycloalkyl optionally substituted with 1, 2, or
10 3 R_{205} groups; $-CO-(C_1-C_4 \text{ alkyl})$; $-SO_2-NR_{235}R_{240}$; $-$
 $CO-NR_{235}R_{240}$; $-SO_2-(C_1-C_4 \text{ alkyl})$; and $=O$;

 R_{215} at each occurrence is independently selected from
 $-C_1-C_6$ alkyl, $-(CH_2)_{0-2}-(\text{aryl})$, $-C_2-C_6$ alkenyl, $-$
 C_2-C_6 alkynyl, $-C_3-C_7$ cycloalkyl, $-(CH_2)_{0-2}-$
15 (heteroaryl) , and $-(CH_2)_{0-2}-(\text{heterocycloalkyl})$;
wherein the aryl group included within R_{215} is
optionally substituted with 1, 2, or 3 groups
that are independently $-R_{205}$ or $-R_{210}$; wherein the
heterocycloalkyl and heteroaryl groups included
20 within R_{215} are optionally substituted with 1, 2,
or 3 R_{210} ;

 R_{220} at each occurrence is independently H, $-C_1-C_6$
alkyl, $-CHO$, hydroxy C_1-C_6 alkyl, C_1-C_6
alkoxycarbonyl, -amino C_1-C_6 alkyl, $-SO_2-C_1-C_6$
25 alkyl, C_1-C_6 alkanoyl optionally substituted
with up to three halogens, $-C(O)NH_2$, $-C(O)NH(C_1-$
 $C_6 \text{ alkyl})$, $-C(O)N(C_1-C_6 \text{ alkyl})(C_1-C_6 \text{ alkyl})$,
-halo C_1-C_6 alkyl, $-(CH_2)_{0-2}-(C_3-C_7 \text{ cycloalkyl})$,
 $-(C_1-C_6 \text{ alkyl})-O-(C_1-C_3 \text{ alkyl})$, $-C_2-C_6$ alkenyl, $-$
30 C_2-C_6 alkynyl, -aryl, -heteroaryl, or
-heterocycloalkyl; wherein the aryl, heteroaryl
and heterocycloalkyl groups included within R_{220}
and R_{225} is optionally substituted with 1, 2, or
3 R_{270} groups,

R₂₇₀ at each occurrence is independently -R₂₀₅, -C₁-C₆ alkyl optionally substituted with 1, 2, or 3 R₂₀₅ groups; -C₂-C₆ alkenyl optionally substituted with 1, 2, or 3 R₂₀₅ groups; -C₂-C₆ alkynyl optionally substituted with 1, 2, or 3 R₂₀₅ groups; -phenyl; -halogen; -C₁-C₆ alkoxy; -C₁-C₆ haloalkoxy; -NR₂₃₅R₂₄₀; -OH; -C≡N; -C₃-C₇ cycloalkyl optionally substituted with 1, 2, or 3 R₂₀₅ groups; -CO-(C₁-C₄ alkyl); -SO₂-NR₂₃₅R₂₄₀; -CO-NR₂₃₅R₂₄₀; -SO₂-(C₁-C₄ alkyl); and =O;

R₂₃₅ and R₂₄₀ at each occurrence are independently -H, -C₁-C₆ alkyl, C₂-C₆ alkanoyl, -SO₂-(C₁-C₆ alkyl), or -phenyl;

R₂₄₅ and R₂₅₀ at each occurrence are independently selected from H, -(CH₂)₀₋₄CO₂C₁-C₄ alkyl, -(CH₂)₀₋₄C(=O)C₁-C₄ alkyl, -C₁-C₄ alkyl, -C₁-C₄ hydroxyalkyl, -C₁-C₄ alkoxy, -C₁-C₄ haloalkoxy, -(CH₂)₀₋₄-C₃-C₇ cycloalkyl, -C₂-C₆ alkenyl, -C₂-C₆ alkynyl, -(CH₂)₀₋₄ aryl, -(CH₂)₀₋₄ heteroaryl, and -(CH₂)₀₋₄ heterocycloalkyl, or

R₂₄₅ and R₂₅₀ are taken together with the carbon to which they are attached to form a monocycle or bicycle of 3, 4, 5, 6, 7 or 8 carbon atoms, where 1, 2, or 3 carbon atoms are optionally replaced by 1, 2, or 3 groups that are independently -O-, -S-, -SO₂-, -C(O)-, -NR₂₂₀-, or -NR₂₂₀R₂₂₀- wherein both R₂₂₀ groups are alkyl; and wherein the ring is optionally substituted with 1, 2, 3, 4, 5, or 6 groups that are independently C₁-C₄ alkyl, C₁-C₄ alkoxy, hydroxyl, NH₂, NH(C₁-C₆ alkyl), N(C₁-C₆ alkyl)(C₁-C₆ alkyl), -NH-C(O)C₁-C₅ alkyl, -NH-SO₂-(C₁-C₆ alkyl), or halogen; wherein the aryl, heteroaryl or heterocycloalkyl groups included within R₂₄₅ and R₂₅₀ are optionally

substituted with 1, 2, or 3 groups that are independently halogen, C₁₋₆ alkyl, CN or OH.

4. A compound according to claim 3, wherein

5 R₁ is C₁-C₁₀ alkyl optionally substituted with 1 or 2 groups independently selected from halogen, -OH, =O, -CN, -CF₃, -OCF₃, -C₃-C₇ cycloalkyl, -C₁-C₄ alkoxy, amino, mono-dialkylamino, aryl, heteroaryl or heterocycloalkyl, wherein the aryl group is optionally substituted with 1
10 or 2 R₅₀ groups;

R₅₀ is halogen, OH, CN, -CO-(C₁-C₄ alkyl), -NR₇R₈, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ alkoxy, and C₃-C₈ cycloalkyl;

R₇ and R₈ are selected from H; -C₁-C₄ alkyl optionally
15 substituted with 1, 2, or 3 groups selected from -OH, -NH₂ and halogen; -C₃-C₆ cycloalkyl; -(C₁-C₄ alkyl)-O-(C₁-C₄ alkyl); -C₂-C₄ alkenyl; and -C₂-C₄ alkynyl;

R_C is selected from -(CR₂₄₅R₂₅₀)₀₋₄-aryl; -(CR₂₄₅R₂₅₀)₀₋₄-heteroaryl;
20 -(CR₂₄₅R₂₅₀)₀₋₄-heterocycloalkyl; where the aryl and heteroaryl groups attached to the -(CR₂₄₅R₂₅₀)₀₋₄- group are optionally substituted with 1, 2, 3 or 4 R₂₀₀ groups; where the heterocycloalkyl group attached to the -(CR₂₄₅R₂₅₀)₀₋₄ group is optionally substituted with 1, 2, 3, or 4 R₂₁₀
25 groups; and

R₂₄₅ R₂₅₀, R₂₀₀, and R₂₁₀ are as defined above.

5. A compound according to claim 4, wherein

R_C is -(CR₂₄₅R₂₅₀)₀₋₄-heterocycloalkyl; where the heterocycloalkyl
30 group attached to the -(CR₂₄₅R₂₅₀)₀₋₄- group is optionally substituted with 1, 2, 3, or 4 R₂₁₀ groups, wherein R₂₄₅, R₂₅₀, and R₂₁₀ are as defined above.

6. A compound according to claim 5, wherein

R₁ is C₁-C₁₀ alkyl substituted with one aryl group, where the aryl group is optionally substituted with 1 or 2 R₅₀ groups;

R_C is -(CR₂₄₅R₂₅₀)₁₋₄-aryl or -(CR₂₄₅R₂₅₀)₁₋₄-heteroaryl,

5 R₂₄₅ and R₂₅₀ are independently selected from H, -(CH₂)₀₋₄CO₂C₁-C₄ alkyl, -(CH₂)₀₋₄CO₂H, -C₁-C₄ alkyl, -(C₁-C₄ alkyl)OH, or

R₂₄₅, R₂₅₀ and the carbon to which they are attached form a monocycle or bicycle of 3, 4, 5, 6, 7 or 8 carbon atoms, where
10 1 or 2 carbon atoms are optionally replaced by -O-, -S-, -SO₂-, or -NR₂₂₀-, where R₂₂₀ is as defined above; and

wherein the aryl and heteroaryl groups attached to the -(CR₂₄₅R₂₅₀)₁₋₄- groups are optionally substituted with 1 or 2 R₂₀₀ groups.

15

7. A compound according to claim 3, wherein

R_C is (CR₂₄₅R₂₅₀)₁-aryl, where the aryl (preferably phenyl or naphthyl, more preferably phenyl) is optionally substituted with 1, 2, or 3 R₂₀₀ groups; and

20 R₂₄₅ is H and R₂₅₀ is H or C₁-C₆ alkyl; or

R₂₄₅ and R₂₅₀ are independently C₁-C₃ alkyl (preferably both are methyl); or

CR₂₄₅R₂₅₀ represents a C₃-C₇ cycloalkyl group.

25

8. A compound according to claim 7, wherein

the (CR₂₄₅R₂₅₀)₁-aryl is (CR₂₄₅R₂₅₀)₁-phenyl where the phenyl is optionally substituted with 1, 2, or 3 R₂₀₀ groups.

9. A compound according to claim 8, wherein the phenyl
30 in (CR₂₄₅R₂₅₀)₁-phenyl is substituted with

1-3 independently selected R₂₀₀ groups, or

1 or 2 independently selected R₂₀₀ groups, and

1 heteroaryl group optionally substituted with 1 R₂₀₀ group or 1 phenyl group optionally substituted with 1 R₂₀₀ group.

10. A compound according to claim 8, wherein R₂₄₅ is hydrogen and R₂₅₀ is C₁-C₃ alkyl.

5 11. A compound according to claim 8, wherein R₂₄₅ and R₂₅₀ are both hydrogen.

12. A compound according to claim 8, wherein the phenyl in (CR₂₄₅R₂₅₀)₁-phenyl is substituted with

10 (a) 1 R₂₀₀ group and 1 heteroaryl group optionally substituted with 1 R₂₀₀ group; or

(b) 1 R₂₀₀ group and 1 phenyl group optionally substituted with 1 R₂₀₀ group; or

15 (c) 1 R₂₀₀ group, and 1 heterocycloalkyl which is optionally substituted with one R₂₀₀ or =O.

13. A compound according to claim 12, wherein CR₂₄₅R₂₅₀ represents a C₃-C₇ cycloalkyl group.

20 14. A compound according to claim 12, wherein CR₂₄₅R₂₅₀ represents a C₅-C₇ cycloalkyl group.

15. A compound according to claim 12, wherein CR₂₄₅R₂₅₀ represents a C₃-C₆ cycloalkyl group.

25

16. A compound according to claim 12, wherein CR₂₄₅R₂₅₀ represents a C₆ cycloalkyl.

17. A compound according to claim 8, wherein the phenyl in (CR₂₄₅R₂₅₀)₁-phenyl is substituted with

1 R₂₀₀ group; or

1 R₂₀₀ group and one heteroaryl group optionally substituted with one R₂₀₀ group or

1 R₂₀₀ group and one phenyl group optionally substituted with one R₂₀₀ group.

18. A compound according to claim 8, wherein the phenyl
5 in (CR₂₄₅R₂₅₀)₁-phenyl is substituted with 1 R₂₀₀ group.

19. A compound selected from the group consisting of:
phenyl ((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-{[(1*S*)-7-ethyl-1,2,3,4-tetrahydronaphthalen-1-yl]amino}-2-hydroxypropyl)carbamate;

methyl (3*S*)-3-{[(2*R*,3*S*)-3-[(anilinocarbonyl)amino]-4-(3,5-difluorophenyl)-2-hydroxybutyl]amino}-3-(3-bromophenyl)propanoate;

N-((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-{[4-(3-ethylphenyl)tetrahydro-2*H*-pyran-4-yl]amino}-2-hydroxypropyl)-*N'*-phenylurea;

N-((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-{[(4*R*)-6-ethyl-2,2-dioxido-3,4-dihydro-1*H*-isothiochromen-4-yl]amino}-2-hydroxypropyl)methanesulfonamide;

N-benzyl-*N'*-((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-{[(4*R*)-6-ethyl-2,2-dioxido-3,4-dihydro-1*H*-isothiochromen-4-yl]amino}-2-hydroxypropyl)urea;

N-((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-{[(4*R*)-6-ethyl-2,2-dioxido-3,4-dihydro-1*H*-isothiochromen-4-yl]amino}-2-hydroxypropyl)-*N'*-phenylurea;

N-((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-{[(4*R*)-6-ethyl-2,2-dioxido-3,4-dihydro-1*H*-isothiochromen-4-yl]amino}-2-hydroxypropyl)-*N'*-propylurea;

N-(*sec*-butyl)-*N'*-((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-{[(4*R*)-6-ethyl-2,2-dioxido-3,4-dihydro-1*H*-isothiochromen-4-yl]amino}-2-hydroxypropyl)urea;

phenyl ((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-{[(4*R*)-6-ethyl-2,2-dioxido-3,4-dihydro-1*H*-isothiochromen-4-yl]amino}-2-hydroxypropyl)carbamate;

ethyl ((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-[[(4*R*)-6-ethyl-2,2-dioxido-3,4-dihydro-1*H*-isothiochromen-4-yl]amino]-2-hydroxypropyl) carbamate;

N-{((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-[(6-ethyl-3,4-dihydro-2*H*-chromen-4-yl) amino]-2-hydroxypropyl)-*N'*-phenylurea;

N-{((1*S*,2*R*)-1-(3,5-difluorobenzyl)-2-hydroxy-3-[(6-isopropyl-3,4-dihydro-2*H*-chromen-4-yl) amino]propyl)-*N'*-phenylurea;

N-[(1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-({6-[(dimethylamino)methyl]-3,4-dihydro-2*H*-chromen-4-yl} amino)-2-hydroxypropyl]-*N'*-phenylurea;

phenyl {((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-[(6-ethyl-3,4-dihydro-2*H*-chromen-4-yl) amino]-2-hydroxypropyl) carbamate;

phenyl {((1*S*,2*R*)-1-(3,5-difluorobenzyl)-2-hydroxy-3-[(6-isopropyl-3,4-dihydro-2*H*-chromen-4-yl) amino]propyl) carbamate;

phenyl [(1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-({6-[(dimethylamino)methyl]-3,4-dihydro-2*H*-chromen-4-yl} amino)-2-hydroxypropyl] carbamate;

N-{((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-[(6-ethyl-3,4-dihydro-1*H*-isochromen-4-yl) amino]-2-hydroxypropyl)-*N'*-phenylurea;

N-{((1*S*,2*R*)-1-(3,5-difluorobenzyl)-2-hydroxy-3-[(6-isopropyl-3,4-dihydro-1*H*-isochromen-4-yl) amino]propyl)-*N'*-phenylurea;

N-[(1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-({6-[(dimethylamino)methyl]-3,4-dihydro-1*H*-isochromen-4-yl} amino)-2-hydroxypropyl]-*N'*-phenylurea;

phenyl {((1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-[(6-ethyl-3,4-dihydro-1*H*-isochromen-4-yl) amino]-2-hydroxypropyl) carbamate;

phenyl {((1*S*,2*R*)-1-(3,5-difluorobenzyl)-2-hydroxy-3-

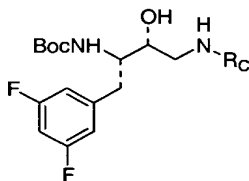
[(6-isopropyl-3,4-dihydro-1*H*-isochromen-4-yl)amino]propyl}carbamate;

phenyl [(1*S*,2*R*)-1-(3,5-difluorobenzyl)-3-({6-[(dimethylamino)methyl]-3,4-dihydro-1*H*-isochromen-4-yl)amino)-2-hydroxypropyl]carbamate;

N^3 -[({(1*S*,2*R*)-1-(3,5-difluorobenzyl)-2-hydroxy-3-[(3-methoxybenzyl)amino]propyl}amino)carbonyl]- N^1 , N^1 -dipropyl-*b*-alaninamide; and

2-[{({(1*S*,2*R*)-1-(3,5-difluorobenzyl)-2-hydroxy-3-[(3-methoxybenzyl)amino]propyl}amino)carbonyl}amino]-*N*,*N*-dipropylethanesulfonamide.

20. A compound of the formula:



wherein

- 5 R_C is selected from $-(CH_2)_{0-3}-(C_3-C_8)$ cycloalkyl wherein the cycloalkyl is optionally substituted with 1, 2, or 3 groups independently selected from $-R_{205}$; and $-CO_2-(C_1-C_4$ alkyl); $-(CR_{245}R_{250})_{0-4}$ -aryl; $-(CR_{245}R_{250})_{0-4}$ -heteroaryl; $-(CR_{245}R_{250})_{0-4}$ -heterocycloalkyl; $-(CR_{245}R_{250})_{0-4}$ -aryl-heteroaryl; $-(CR_{245}R_{250})_{0-4}$ -aryl-heterocycloalkyl; $-(CR_{245}R_{250})_{0-4}$ -aryl-aryl; $-(CR_{245}R_{250})_{0-4}$ -heteroaryl-aryl; $-(CR_{245}R_{250})_{0-4}$ -heteroaryl-heterocycloalkyl; $-(CR_{245}R_{250})_{0-4}$ -heteroaryl-heteroaryl; $-CHR_{245}-CHR_{250}$ -aryl; $-(CR_{245}R_{250})_{0-4}$ -heterocycloalkyl-heteroaryl; $-(CR_{245}R_{250})_{0-4}$ -heterocycloalkyl-heterocycloalkyl; $-(CR_{245}R_{250})_{0-4}$ -heterocycloalkyl-aryl; a monocyclic or bicyclic ring of 5, 6, 7 8, 9, or 10 carbons fused to 1 or 2 aryl, heteroaryl, or heterocycloalkyl groups;

wherein 1, 2 or 3 carbons of the monocyclic or bicyclic ring
20 are optionally replaced with $-NH-$, $-N(CO)_{0-1}R_{215}-$,

-N(CO)₀₋₁R₂₂₀-, -O-, or -S(=O)₀₋₂-, and wherein the monocyclic or bicyclic ring is optionally substituted with 1, 2 or 3 groups that are independently -R₂₀₅, -R₂₄₅, -R₂₅₀ or =O;

5 and -C₂-C₆ alkenyl optionally substituted with 1, 2, or 3 R₂₀₅ groups;

wherein each aryl or heteroaryl group attached directly or indirectly to the -(CR₂₄₅R₂₅₀)₀₋₄ group is optionally substituted with 1, 2, 3 or 4 R₂₀₀ groups;

10 wherein each heterocycloalkyl attached directly or indirectly to the -(CR₂₄₅R₂₅₀)₀₋₄ group is optionally substituted with 1, 2, 3, or 4 R₂₁₀;

R₂₀₀ at each occurrence is independently selected from

-C₁-C₆ alkyl optionally substituted with 1, 2,

15 or 3 R₂₀₅ groups; -OH; -NO₂; -halogen; -C≡N;

-(CH₂)₀₋₄-CO-NR₂₂₀R₂₂₅; -(CH₂)₀₋₄-CO-(C₁-C₈ alkyl);

-(CH₂)₀₋₄-CO-(C₂-C₈ alkenyl); -(CH₂)₀₋₄-CO-(C₂-C₈

alkynyl); -(CH₂)₀₋₄-CO-(C₃-C₇ cycloalkyl); -(CH₂)₀₋

4-(CO)₀₋₁-aryl; -(CH₂)₀₋₄-(CO)₀₋₁-heteroaryl;

20 -(CH₂)₀₋₄-(CO)₀₋₁-heterocycloalkyl; -(CH₂)₀₋₄-

CO₂R₂₁₅; -(CH₂)₀₋₄-SO₂-NR₂₂₀R₂₂₅; -(CH₂)₀₋₄-S(O)₀₋₂-

(C₁-C₈ alkyl); -(CH₂)₀₋₄-S(O)₀₋₂-(C₃-C₇

cycloalkyl); -(CH₂)₀₋₄-N(H or R₂₁₅)-CO₂R₂₁₅;

-(CH₂)₀₋₄-N(H or R₂₁₅)-SO₂-R₂₂₀; -(CH₂)₀₋₄-N(H or

25 R₂₁₅)-CO-N(R₂₁₅)₂; -(CH₂)₀₋₄-N(-H or R₂₁₅)-CO-R₂₂₀;

-(CH₂)₀₋₄-NR₂₂₀R₂₂₅; -(CH₂)₀₋₄-O-CO-(C₁-C₆ alkyl);

-(CH₂)₀₋₄-O-(R₂₁₅); -(CH₂)₀₋₄-S-(R₂₁₅); -(CH₂)₀₋₄-O-

(C₁-C₆ alkyl optionally substituted with 1, 2,

3, or 5 -F); -C₂-C₆ alkenyl optionally

30 substituted with 1 or 2 R₂₀₅ groups; -C₂-C₆

alkynyl optionally substituted with 1 or 2 R₂₀₅

groups; adamantyl, and -(CH₂)₀₋₄-C₃-C₇

cycloalkyl;

each aryl and heteroaryl group included within
 R_{200} is optionally substituted with 1, 2, or
 3 groups that are independently $-R_{205}$, $-R_{210}$
 or $-C_1-C_6$ alkyl substituted with 1, 2, or 3
 5 groups that are independently R_{205} or R_{210} ;
 each heterocycloalkyl group included within R_{200}
 is optionally substituted with 1, 2, or 3
 groups that are independently R_{210} ;
 R_{205} at each occurrence is independently selected from
 10 $-C_1-C_6$ alkyl, $-C_2-C_6$ alkenyl, $-C_2-C_6$ alkynyl, $-C_1-$
 C_6 haloalkoxy, $-(CH_2)_{0-3}(C_3-C_7$ cycloalkyl), $-$
 halogen, $-(CH_2)_{0-6}-OH$, $-O$ -phenyl, OH , SH , $-(CH_2)_{0-6}-C\equiv N$,
 $-(CH_2)_{0-6}-C(=O)NR_{235}R_{240}$, $-CF_3$, $-C_1-C_6$
 alkoxy, C_1-C_6 alkoxycarbonyl, and $-NR_{235}R_{240}$;
 15 R_{210} at each occurrence is independently selected from
 $-C_1-C_6$ alkyl optionally substituted with 1, 2,
 or 3 R_{205} groups; $-C_2-C_6$ alkenyl optionally
 substituted with 1, 2, or 3 R_{205} groups; C_1-C_6
 alkanoyl; $-SO_2-(C_1-C_6$ alkyl); $-C_2-C_6$ alkynyl
 20 optionally substituted with 1, 2, or 3 R_{205}
 groups; $-halogen$; $-C_1-C_6$ alkoxy; $-C_1-C_6$
 haloalkoxy; $-NR_{220}R_{225}$; $-OH$; $-C\equiv N$; $-C_3-C_7$
 cycloalkyl optionally substituted with 1, 2, or
 3 R_{205} groups; $-CO-(C_1-C_4$ alkyl); $-SO_2-NR_{235}R_{240}$; $-$
 25 $CO-NR_{235}R_{240}$; $-SO_2-(C_1-C_4$ alkyl); and $=O$;
 R_{215} at each occurrence is independently selected from
 $-C_1-C_6$ alkyl, $-(CH_2)_{0-2}-(aryl)$, $-C_2-C_6$ alkenyl, $-$
 C_2-C_6 alkynyl, $-C_3-C_7$ cycloalkyl, $-(CH_2)_{0-2}-$
 (heteroaryl), and $-(CH_2)_{0-2}-(heterocycloalkyl)$;
 30 wherein the aryl group included within R_{215} is
 optionally substituted with 1, 2, or 3 groups
 that are independently $-R_{205}$ or $-R_{210}$; wherein the
 heterocycloalkyl and heteroaryl groups included

within R₂₁₅ are optionally substituted with 1, 2, or 3 R₂₁₀;

R₂₂₀ at each occurrence is independently H, -C₁-C₆ alkyl, -CHO, hydroxy C₁-C₆ alkyl, C₁-C₆ alkoxy carbonyl, -amino C₁-C₆ alkyl, -SO₂-C₁-C₆ alkyl, C₁-C₆ alkanoyl optionally substituted with up to three halogens, -C(O)NH₂, -C(O)NH(C₁-C₆ alkyl), -C(O)N(C₁-C₆ alkyl)(C₁-C₆ alkyl), -halo C₁-C₆ alkyl, -(CH₂)₀₋₂-(C₃-C₇ cycloalkyl), -(C₁-C₆ alkyl)-O-(C₁-C₃ alkyl), -C₂-C₆ alkenyl, -C₂-C₆ alkynyl, -aryl, -heteroaryl, or -heterocycloalkyl; wherein the aryl, heteroaryl and heterocycloalkyl groups included within R₂₂₀ and R₂₂₅ is optionally substituted with 1, 2, or 3 R₂₇₀ groups,

R₂₇₀ at each occurrence is independently -R₂₀₅, -C₁-C₆ alkyl optionally substituted with 1, 2, or 3 R₂₀₅ groups; -C₂-C₆ alkenyl optionally substituted with 1, 2, or 3 R₂₀₅ groups; -C₂-C₆ alkynyl optionally substituted with 1, 2, or 3 R₂₀₅ groups; -phenyl; -halogen; -C₁-C₆ alkoxy; -C₁-C₆ haloalkoxy; -NR₂₃₅R₂₄₀; -OH; -C≡N; -C₃-C₇ cycloalkyl optionally substituted with 1, 2, or 3 R₂₀₅ groups; -CO-(C₁-C₄ alkyl); -SO₂-NR₂₃₅R₂₄₀; -CO-NR₂₃₅R₂₄₀; -SO₂-(C₁-C₄ alkyl); and =O;

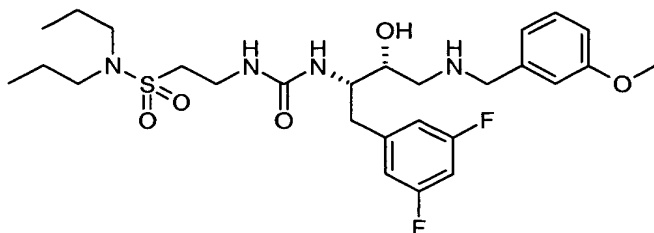
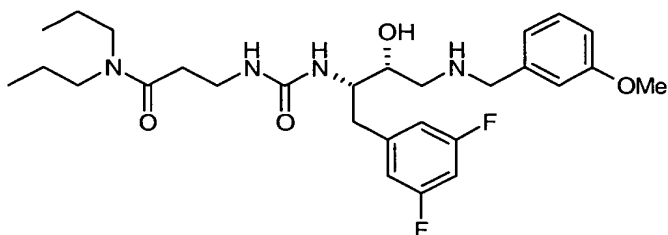
R₂₃₅ and R₂₄₀ at each occurrence are independently -H, -C₁-C₆ alkyl, C₂-C₆ alkanoyl, -SO₂-(C₁-C₆ alkyl), or -phenyl;

R₂₄₅ and R₂₅₀ at each occurrence are independently selected from H, -(CH₂)₀₋₄CO₂C₁-C₄ alkyl, -(CH₂)₀₋₄C(=O)C₁-C₄ alkyl, -C₁-C₄ alkyl, -C₁-C₄ hydroxyalkyl, -C₁-C₄ alkoxy, -C₁-C₄ haloalkoxy, -(CH₂)₀₋₄-C₃-C₇ cycloalkyl, -C₂-C₆ alkenyl, -C₂-

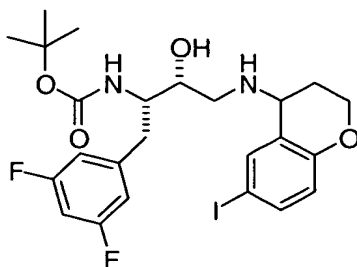
C₆ alkynyl, -(CH₂)₀₋₄ aryl, -(CH₂)₀₋₄ heteroaryl, and
-(CH₂)₀₋₄ heterocycloalkyl, or

R₂₄₅ and R₂₅₀ are taken together with the carbon to which they
are attached to form a monocycle or bicycle of 3, 4, 5, 6,
5 7 or 8 carbon atoms, where 1, 2, or 3 carbon atoms are
optionally replaced by 1, 2, or 3 groups that are
independently -O-, -S-, -SO₂-, -C(O)-, -NR₂₂₀-, or
-NR₂₂₀R₂₂₀- wherein both R₂₂₀ groups are alkyl; and wherein
the ring is optionally substituted with 1, 2, 3, 4, 5, or
10 6 groups that are independently C₁-C₄ alkyl, C₁-C₄ alkoxy,
hydroxyl, NH₂, NH(C₁-C₆ alkyl), N(C₁-C₆ alkyl)(C₁-C₆ alkyl),
-NH-C(O)C₁-C₅ alkyl, -NH-SO₂-(C₁-C₆ alkyl), or halogen;
wherein the aryl, heteroaryl or heterocycloalkyl groups
included within R₂₄₅ and R₂₅₀ are optionally
15 substituted with 1, 2, or 3 groups that are
independently halogen, C₁₋₆ alkyl, CN or OH.

21. A compound which has the formula:



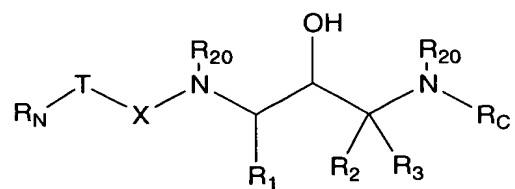
or



or a pharmaceutically acceptable salt thereof.

22. A method of treating a patient who has, or in preventing a patient from getting, a disease or condition selected from the group consisting of Alzheimer's disease, for helping prevent or delay the onset of Alzheimer's disease, for treating patients with mild cognitive impairment (MCI) and preventing or delaying the onset of Alzheimer's disease in those who would progress from MCI to AD, for treating Down's syndrome, for treating humans who have Hereditary Cerebral Hemorrhage with Amyloidosis of the Dutch-Type, for treating cerebral amyloid angiopathy and preventing its potential consequences, i.e. single and recurrent lobar hemorrhages, for treating other degenerative dementias, including dementias of mixed vascular and degenerative origin, dementia associated with Parkinson's disease, dementia associated with progressive supranuclear palsy, dementia associated with cortical basal degeneration, diffuse Lewy body type of Alzheimer's disease and who is in need of such treatment which comprises administration of a therapeutically effective amount of a compound selected from the group consisting of a substituted aminoalcohol of the formula (I), or a pharmaceutically acceptable salt or ester thereof, wherein X, T, R₂₀, R₁, R₂, R₃, R_N and R_C are as defined in claim 1.

23. A method for making a compound of formula I



or a pharmaceutically acceptable salt or ester thereof,
 wherein X, T, R₂₀, R₁, R₂, R₃, R_N and R_C are as defined in claim
 1.